

What is claimed is:

1. A process for removing a coating from a part comprising the steps of:
  - immersing the part in a chemical bath, the bath containing a first chemical solution effective to strip the coating from the part; and
  - directing an aerated jet spray of a second chemical solution onto the part immersed in the chemical bath, the second chemical solution effective to strip the coating from the part.
2. The process for removing a coating from a part according to claim 1, wherein said first and second chemical solutions are the same chemical solution.
3. The process for removing a coating from a part according to claim 1, wherein at least one of the first and second chemical solutions includes sodium hydroxide.
4. The process for removing a coating from a part according to claim 1, wherein at least one of the first and second chemical solutions includes a solution selected from the group glycolic acid, N-methyl pyrrolidone, 2-buoxethanol, isopropyl alcohol, ethyl lactate and dibasic esters.
5. The process for removing a coating from a part according to claim 1, wherein at least said first chemical solution is heated above room temperature.
6. The process for removing a coating from a part according to claim 1, wherein said first chemical solution is continuously recirculated.
7. The process for removing a coating from a part according to claim 6, wherein said first chemical solution is filtered during recirculation.

8. The process for removing a coating from a part according to claim 6, wherein said first chemical solution is recirculated in a direction transverse to the direction of the aerated jet spray of said second chemical solution.

9. The process for removing a coating from a part according to claim 1, wherein said jet spray is provided at a flow rate of between 1 gpm and 500 gpm.

10. The process for removing a coating from a part according to claim 9, wherein said jet spray is produced by combining a flow of said second chemical solution with a flow of pressurized air provided at a pressure between 1 psi and 250 psi.

11. The process for removing a coating from a part according to claim 10, wherein the pressurized air is provided at a flow rate of between 1 cfm and 100 cfm.

12. A system for removing a coating from a part comprising:  
a tank having opposite side walls, opposite front and back walls between said side walls, a bottom wall and an open top with a lid adapted to close the open top, said tank defining a dip chamber configured to contain a chemical bath and sized to receive at least the part immersed within the chemical bath;  
the tank defining an inlet and an outlet at said opposite side walls of the tank;  
a fluid recirculation path connected outside said tank between said outlet and said inlet and including a pump for flowing a chemical solution through said dip chamber; and  
a plurality of spray nozzles supported on at least one of said front wall and said back wall of the tank, the spray nozzles fluidly connectable to a source of a chemical solution effective to strip the coating from the part.

13. The system for removing a coating from a part according to claim 12, wherein said tank includes an outer tank and an inner tank nested within said outer tank and defining an interior cavity between said outer tank and said inner tank.

14. The system for removing a coating from a part according to claim 13, wherein said interior cavity includes insulation disposed between said inner tank and said outer tank.

15. The system for removing a coating from a part according to claim 13, further comprising a plumbing assembly disposed within said interior cavity, said plumbing assembly including said plurality of spray nozzles and at least one fluid inlet connectable to the source of the chemical solution.

16. The system for removing a coating from a part according to claim 12, further comprising a plurality of spray nozzles supported on both said front wall and said back wall of the tank.

17. The system for removing a coating from a part according to claim 12, further comprising jet spray means, connectable between said plurality of spray nozzles and the source of a chemical solution, for producing an aerated pressurized flow of the chemical solution to said spray nozzles.

18. The system for removing a coating from a part according to claim 17, wherein said jet spray means includes:

an inlet tube in fluid communication with said plurality of spray nozzles, and including a fluid inlet connectable to the source of a chemical solution;

a source of pressurized air connected to said inlet tube to aerate the chemical solution flowing into said inlet tube through said fluid inlet.

19. The system for removing a coating from a part according to claim 18, wherein said jet spray means includes a valve between said source of pressurized air and said inlet tube, said valve operable in an open position to permit flow of the pressurized air into said inlet tube and in a closed position to prevent flow of the pressurized air into said inlet.

20. The system for removing a coating from a part according to claim 12, wherein said fluid recirculation path includes a heater interposed therein to heat the chemical solution flowing therethrough.

21. A system for removing a coating from a part comprising:

a tank having opposite side walls, opposite front and back walls between said side walls, a bottom wall and an open top with a lid adapted to close the open top, said tank defining a dip chamber configured to contain a chemical bath and sized to receive at least the part immersed within the chemical bath;

the tank defining an inlet and an outlet at said opposite side walls of the tank;

a fluid recirculation path connected outside said tank between said outlet and said inlet and including a pump for flowing a chemical solution through said dip chamber; and

a plurality of impellers mounted on said tank within said dip chamber, said impellers operable to generate a vortex in a chemical bath disposed within the dip chamber when a part is immersed therein.

22. The system for removing a coating according to claim 21, wherein said plurality of impellers are supported on the underside of said lid so that the impellers are immersed in the chemical bath when said lid is closed over said open top.

23. A method for removing paint from the surface a plastic part comprising the steps of:

immersing the plastic part in a bath of a chemical solution adapted to remove paint from the surface of the plastic part;

flowing the chemical solution through the bath across the plastic part at a first flow rate; and

impinging the immersed plastic part with an aerated jet of the chemical solution at a second flow rate greater than the first flow rate.

24. The method for removing paint according to claim 23, further comprising the step of recirculating the chemical solution flowing through the bath.

25. The method for removing paint according to claim 23, wherein the step of recirculating includes recirculating the chemical solution through a filter and a heater.

26. The method for removing paint according to claim 23, wherein the step of impinging includes directing the aerated jet of the chemical solution through a plurality of nozzles oriented to impinge on the part.

27. The method for removing paint according to claim 23, wherein the chemical solution flows through the bath in a first direction and the impinging aerated jet is directed in a second direction different from the first direction.